

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.: 10/517,699
Applicant(s): Philippe Catteau et al.
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Title: ELECTRONIC LABEL ANTENNA
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APPEAL BRIEF UNDER 37 CFR § 41.37

This Appeal Brief is filed pursuant to the Notice of Appeal filed on March 3, 2010.

1. ***Real Party in Interest.***

The real party in interest in this appeal is Store Electronic Systems Electronic Shelf Label, the assignee of the above-referenced patent application.

2. ***Related Appeals and Interferences.***

There are no related appeals and/or interferences involving this application or its subject matter.

3. ***Status of Claims.***

As set forth in the Final Office Action mailed November 10, 2009, Claims 1, 18–21, 24–30, and 36 stand rejected. Claims 2–17, 22, 23, and 31–35 have been canceled. The present appeal involves Claims 1, 18–21, 24–30, and 36. A copy of the claims is included in the Claims Appendix.

4. ***Status of Amendments.***

There are no unentered amendments in this application.

5. ***Summary of Claimed Subject Matter.***

Independent Claim 1 recites an electronic label comprising a housing having at least one wall, a display disposed along the wall, and an antenna layer configured to cooperate with the electronic display to transmit information, the antenna layer extending along the wall in such a manner as to constitute a stack with the wall. Published Application, paras. [0028], [0033], and [0034]; Figs. 1 and 2. The antenna layer comprises at least a first antenna head and at least a second antenna head spaced from the first antenna head such that an area, through which the electronic display is viewable, is at least partially defined in the antenna layer between the first and second antenna heads. Para. [0039]; Fig. 3. Furthermore, the display comprises metal disposed between the first antenna head and the second antenna head such that the first antenna head, the second antenna head, and the display are capable of acting as a capacitor. Para. [0044]. Claims 18–21, 24–30, and 36 depend from Claim 1.

6. ***Grounds to be Reviewed on Appeal.***

(i) Claims 1, 18, 21, and 24–25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,118,426 to Albert et al. (hereinafter “Albert”) in view of U.S. Publication No. 2002/0167500 to Gelbman (hereinafter “Gelbman”).

(ii) Claims 19 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert modified by Gelbman in view of U.S. Patent No. 6,437,985 to Blanc et al. (hereinafter “Blanc”).

(iii) Claims 26–30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert modified by Gelbman in view of U.S. Patent No. 6,950,023 to Martin (hereinafter “Martin”).

(iv) Claim 36 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert modified by Gelbman in view of U.S. Patent No. 6,427,065 to Suga et al. (hereinafter “Suga”).

7. ***Argument.***

Applicant respectfully submits that the Final Office Action fails to satisfy the burden of establishing a *prima facie* case for obviousness. All of the elements of a claimed invention must be taught or suggested by the prior art to establish *prima facie* obviousness of a claimed invention. MPEP § 2143.03 (citing *In re Royka*, 490 F.2d 981 (CCPA 1974)).

Claims 1, 18–21, 24–30, and 36 are patentable over all of the cited references as none of the references, alone or in combination, teach or suggest an electronic label comprising a housing having at least one wall, an electronic display disposed along the wall, and an antenna layer configured to cooperate with the electronic display to transmit information, wherein “the display comprises metal disposed between the first antenna head and the second antenna head such that the first antenna head, the second antenna head, and the display are capable of acting as a capacitor,” as recited in Claim 1. In particular, neither Albert nor Gelbman teaches or suggests combining an antenna and a display in order to achieve a transmitting antenna with an enhanced transmitted field. None of the other cited references cure the deficiencies of Albert and Gelbman. Accordingly, all of the claims are patentable over the cited references for at least the reasons provided below.

A. Claims 1, 18, 21, and 24–25 are patentable over Albert in view of Gelbman.

The Final Office Action rejects Claims 1, 18, 21, and 24–25 under 35 U.S.C. §103(a) as being unpatentable over Albert in view of Gelbman. Applicant respectfully submits that neither Albert nor Gelbman teaches or suggests an electronic label that includes an antenna layer configured to cooperate with an electronic display to transmit information, wherein “the display comprises metal disposed between the first antenna head and the second antenna head such that the first antenna head, the second antenna head, and the display are capable of acting as a capacitor,” as recited in Claim 1.

As background, the claimed invention relates to a new transmitting antenna that is used for transmitting information from an electronic price label to a central station. This antenna is much less bulky and cheaper than conventional transmitting antennas in the range of frequencies

of 433MHz, which are typically projecting perpendicularly outwards from the label by about 17 cm and require a ferrite rod. *See, e.g.*, Published Application, paras. [0004] and [0005].

Albert is directed to an electronically addressable display that can be used as an indicator by changing the state of the display under certain conditions. In some embodiments, the system includes one or more antennas to improve the level of signal reception. Albert, col. 14, lines 18–19. In these embodiments, the display system further includes an energy storage device **320** in communication with a passive rectifier **310**. Fig. 6A; col. 14, lines 19–21. “The energy storage device **320** can be a capacitor, a battery, or any other electrical or non-electrical energy storage device known in the art of energy storage.” Col. 14, lines 21–24.

As acknowledged in the Final Office Action, Albert only describes antennas for receiving information and for feeding energy to a circuit. Final Office Action, page 3. Thus, the concerns addressed by Albert are different from those addressed by the claimed invention.

In particular, Albert discloses that the antenna is made on the same substrate as the label itself. *See, e.g.*, Fig. 6B. In contrast, the antenna layer **100** of the claimed invention is arranged on the outside of the front wall **2** of the label housing **5** in order to enhance the transmitted field. Published Application, Figs. 1 and 2; para. [0033].

Moreover, Albert discloses that “the antenna may be disposed in a surrounding relation to the display, allowing power to be received from relatively low-power signals.” Albert, col. 14, lines 10–17. However, Albert is silent about the “relation” between the receiving antenna and the display. A person skilled in the art can only deduce that the display is a disruptive element for maximizing the antenna’s reception.

To the contrary, in the claimed invention, the display **3** forms part of the transmitting antenna by cooperating with the antenna layer **100**. In this regard, the display **3** of the claimed invention comprises a metal part arranged between the heads of the antenna in order to provide a capacitance that helps to maximize the transmitted field of the antenna. *See, e.g.*, Published Application, para. [0033] (“...this disposition makes it possible to make use of all of the energy radiated by the antenna by eliminating an obstacle (the wall of the housing) between said antenna and the receiver means of the central station, thereby increasing the transmit range of said antenna.”).

In addition, Applicant respectfully submits that the Final Office Action misinterprets the teachings of Albert in the statements made on page 2 of the Office Action. For example, col. 10, lines 27–40 of Albert, which is cited in the Final Office Action, relates to a capacitive sensor that has nothing to do with a transmitting antenna. In col. 18, lines 25–35, Albert discusses a bistable display, and the capacitance is not used for transmissions. Rather, the display is a disruptive element for maximizing reception, as discussed above.

In col. 6, lines 27–58, Albert describes a process to deposit a conductive layer on an insulating material. In col. 8, lines 39–55, Albert discloses the use of the display as a voltage sensor for the battery. In col. 9, lines 40–50, Albert discusses the change of state of a display according to a voltage. Finally, in col. 13, lines 12–47, Albert relates a process to produce displays (multilayer sandwich structures). Thus, nowhere does Albert teach or suggest combining an antenna and a display in order to achieve a transmitting antenna with an enhanced transmitted field.

Accordingly, Albert does not teach or suggest an electronic label comprising a housing having at least one wall, an electronic display disposed along the wall, and an antenna layer configured to cooperate with the electronic display to transmit information, wherein “the display comprises metal disposed between the first antenna head and the second antenna head such that the first antenna head, the second antenna head, and the display are capable of acting as a capacitor,” as recited in Claim 1.

Gelbman does not cure the deficiencies of Albert in this respect, and the Final Office Action does not assert this. Rather, the Final Office Action uses Gelbman to disclose “an electronic label 16 having an antenna layer 48 that, in cooperation with a display, is configured to transmit and receive data through an integrated circuit layer 54.” Final Office Action, page 3. Regardless of whether Gelbman is directed to a transmitting antenna, Gelbman does not teach or suggest an antenna layer configured to cooperate with an electronic display to transmit information, wherein “the display comprises metal disposed between the first antenna head and the second antenna head such that the first antenna head, the second antenna head, and the display are capable of acting as a capacitor,” as recited in Claim 1. Thus, the combination of Albert and Gelbman cannot render Claim 1 or the claims that depend therefrom obvious.

B. Claims 19 and 20 are patentable over Albert modified by Gelbman in view of Blanc.

Claims 19–20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert modified by Gelbman in view of Blanc. Blanc discloses a receiving antenna for tags without a battery comprising a twisted flat antenna. Blanc does not cure the deficiencies of Albert or Gelbman.

Claims 19–20 depend from Claim 1 and are therefore also patentable for at least the reasons discussed above for independent Claim 1. Neither Albert, nor Gelbman, nor Blanc, alone or in combination, teaches or suggests every element of independent Claim 1. The Final Office Action does not suggest that Blanc cures the above-noted deficiencies of Albert and Gelbman, and Applicant asserts that Blanc does not cure the deficiencies. Accordingly, reversal of these rejections is requested on the same basis as described above in Section A.

C. Claims 26–30 are patentable over Albert modified by Gelbman in view of Martin.

Claims 26–30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert modified by Gelbman in view of Martin. Martin discloses a contactless connection structure between a receiving antenna and an electronic circuit. The antenna ends of Martin have two very large surfaces **46, 48** facing equivalent surfaces of the electronic circuit, and the connection is made by capacitive coupling. Martin, col. 4, lines 5–11. In contrast, the antenna of the claimed invention is connected to the electronic circuit through a direct connection (such as soldering). Published Application, para. [0041]. Martin does not cure the deficiencies of Albert or Gelbman.

Claims 26–30 depend from independent Claim 1. Neither Albert, nor Gelbman, nor Martin, alone or in combination, teaches or suggests every element of independent Claim 1. The Final Office Action does not suggest that Martin cures the above-noted deficiencies of Albert and Gelbman, and Applicant asserts that Martin does not cure the deficiencies. Accordingly, reversal of these rejections is requested on the same basis as described above in Section A.

D. Claim 36 is patentable over Albert modified by Gelbman in view of Suga.

Claim 36 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert and Gelbman in view of Suga. Suga describes a power receiving antenna comprising an antenna coil and a capacitor **25**. A variable impedance circuit is used to produce a desired power supply from the power received by the antenna. Suga, col. 3, line 20. Suga does not cure the deficiencies of Albert or Gelbman.

Claim 36 depends from independent Claim 1. Neither Albert, nor Gelbman, nor Suga, alone or in combination, teaches or suggests every element of independent Claim 1. The Final Office Action does not suggest that Suga cures the above-noted deficiencies of Albert and Gelbman, and Applicant asserts that Suga does not cure the deficiencies. Accordingly, reversal of these rejections is requested on the same basis as described above in Section A.

E. Conclusion

Albert, Gelbman, Blanc, Martin, and Suga, individually and in combination, fail to anticipate or render obvious independent Claim 1 for at least the same reasons described above. Claims 18–21, 24–30, and 36 depend from independent Claim 1 and thus include all the recitations of the independent claim. Therefore, dependent Claims 18–21, 24–30, and 36 are patentable for at least those reasons given above for independent Claim 1.

Accordingly, for all the reasons stated above, Applicant respectfully requests that the rejections of Claims 1, 18–21, 24–30, and 36 be reversed.

8. ***Claims Appendix.***

The claims currently on appeal are as follows:

1. (Previously Presented) An electronic label comprising a housing having at least one wall, an electronic display disposed along the wall, and an antenna layer configured to cooperate with the electronic display to transmit information, the antenna layer extending along the wall in such a manner as to constitute a stack with the wall, the antenna layer comprising at least a first antenna head and at least a second antenna head spaced from the first antenna head such that an area, through which the electronic display is viewable, is at least partially defined in the antenna layer between the first and second antenna heads,

wherein the display comprises metal disposed between the first antenna head and the second antenna head such that the first antenna head, the second antenna head, and the display are capable of acting as a capacitor, and

wherein the wall includes the display and the antenna extends on the face of the wall around the display.

2-17. (Canceled)

18. (Previously Presented) The electronic label of Claim 1, wherein the antenna layer comprises a conductive patterned material disposed on a supporting sheet.

19. (Previously Presented) The electronic label of Claim 1, further comprising an insulating layer, wherein the antenna layer is disposed between the wall and the insulating layer.

20. (Previously Presented) The electronic label of Claim 19, wherein the insulating layer comprises a decorative layer.

21. (Previously Presented) The electronic label of Claim 1, wherein the antenna layer comprises a wire antenna.

22-23. (Canceled)

24. (Previously Presented) The electronic label of Claim 1, wherein at least a portion of the first antenna head is linear, and wherein at least a portion of the second antenna head is linear and parallel to the linear portion of the first antenna head.

25. (Previously Presented) The electronic label of Claim 1, further comprising an electrical bridge connecting the first antenna head to the second antenna head.

26. (Previously Presented) The electronic label of Claim 1, further comprising a flat cable connected to the first antenna head and connected to the second antenna head.

27. (Previously Presented) The electronic label of Claim 26, further comprising an electronic circuit, wherein the flat cable connects the antenna layer to the electronic circuit.

28. (Previously Presented) The electronic label of Claim 27, wherein the flat cable comprises at least one tab soldered to the electronic circuit.

29. (Previously Presented) The electronic label of Claim 28, wherein the tab defines an opening in which solder is disposed.

30. (Previously Presented) The electronic label of Claim 27, wherein the wall defines an opening through which the flat cable is passed.

31-35. (Canceled)

36. (Previously Presented) The electronic label of Claim 1, further comprising an electrical bridge connecting the first antenna head to the second antenna head, a first impedance-

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matching tap connected to the first antenna head, and a second impedance-matching tap connected to the second antenna head.

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9. *Evidence Appendix.*

None.

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10. ***Related Proceedings Appendix.***

None.

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CONCLUSION

For at least the foregoing reasons, Applicant respectfully requests that the rejections be reversed.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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